

Business Finance Basics



- **Equity Financing**
- **Debt Financing**
- **Finances and Firm Stage**
- **Empirical Data on Use of Debt & Equity**
- **Business Finance Examples**

Equity Financing



- Definition of equity
- Governance and financial rights
- Financial return: dividends and capital gains
- Forms of equity: preferred stock, common stock, partnership interest, “project equity”
- Key equity terms
 - Company valuation
 - Voting rights & board representation
 - Registration rights
 - Anti-dilution covenants

Key Formulas: Equity Finance



- **Company valuation:**
 - Discounted cash flow: $\text{Value} = \sum \text{CF}_i / (1+r)^i$
 - Price/earnings ratio: $\text{Value} = \text{PER} * \text{stabilized earnings}$
- **Private investor's ownership share**
 - % of ownership = $\text{investment} / (\text{pre-investment company value} + \text{investment})$
- **Company valuation is inexact**
 - Valuation and ownership share is negotiated

Debt Financing



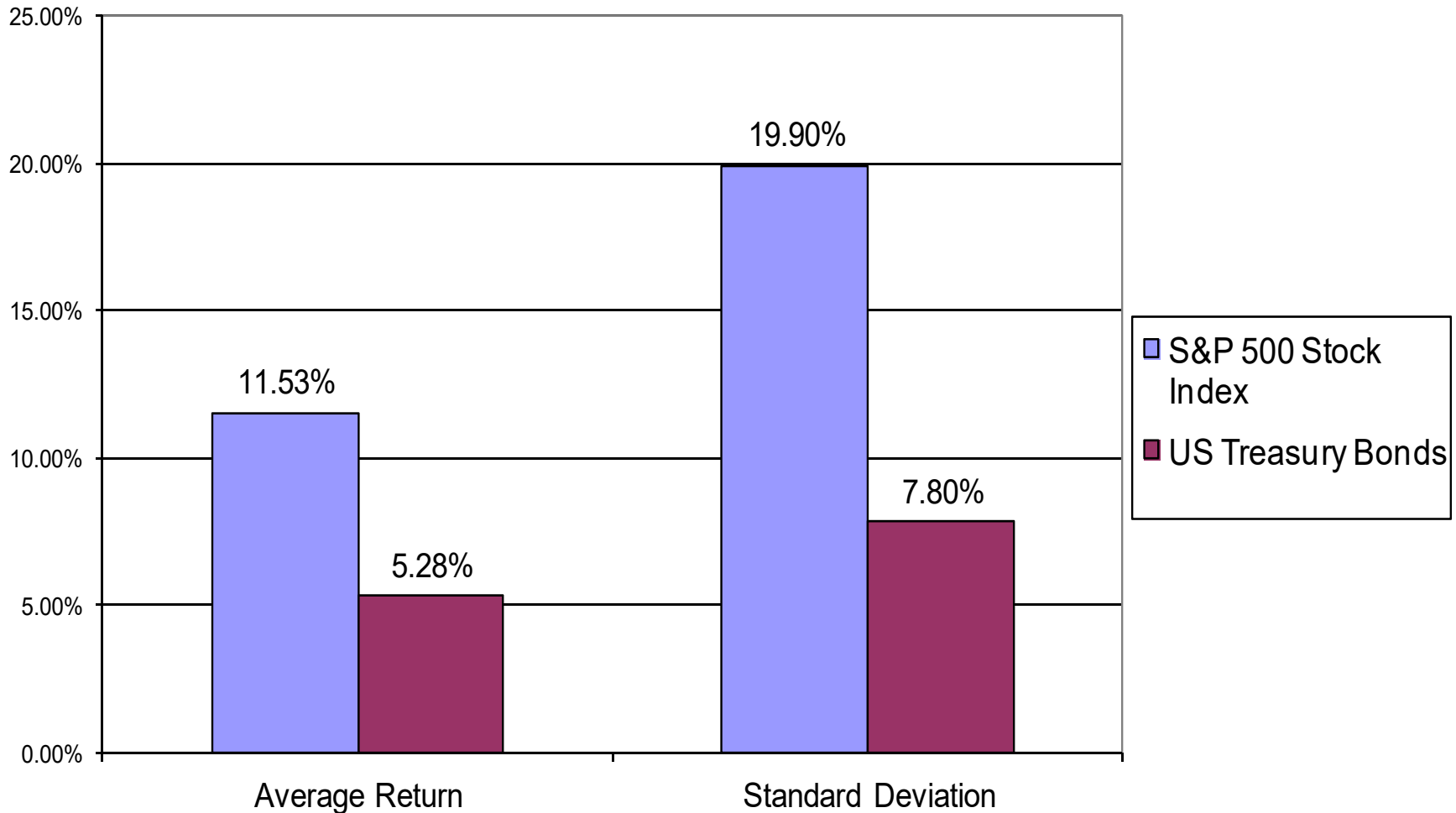
- **Definition of debt**
- **Financial terms:**
 - Principal
 - Interest rate
 - Loan term or maturity
 - ***Amortization period***
- **Non-financial terms**
 - Collateral and security position
 - Guarantees
 - Financial covenants
- **Debt service coverage ratio (cash flow/P + I)**
- **Loan-to-value ratio (loan prin. / appraised value)**

Selected Types of Debt



- Trade credit
- Lines of credits
- Construction loans
- Equipment leases
- Term loans
- Mini-perm loans
- Long-term mortgage loans
- Bonds

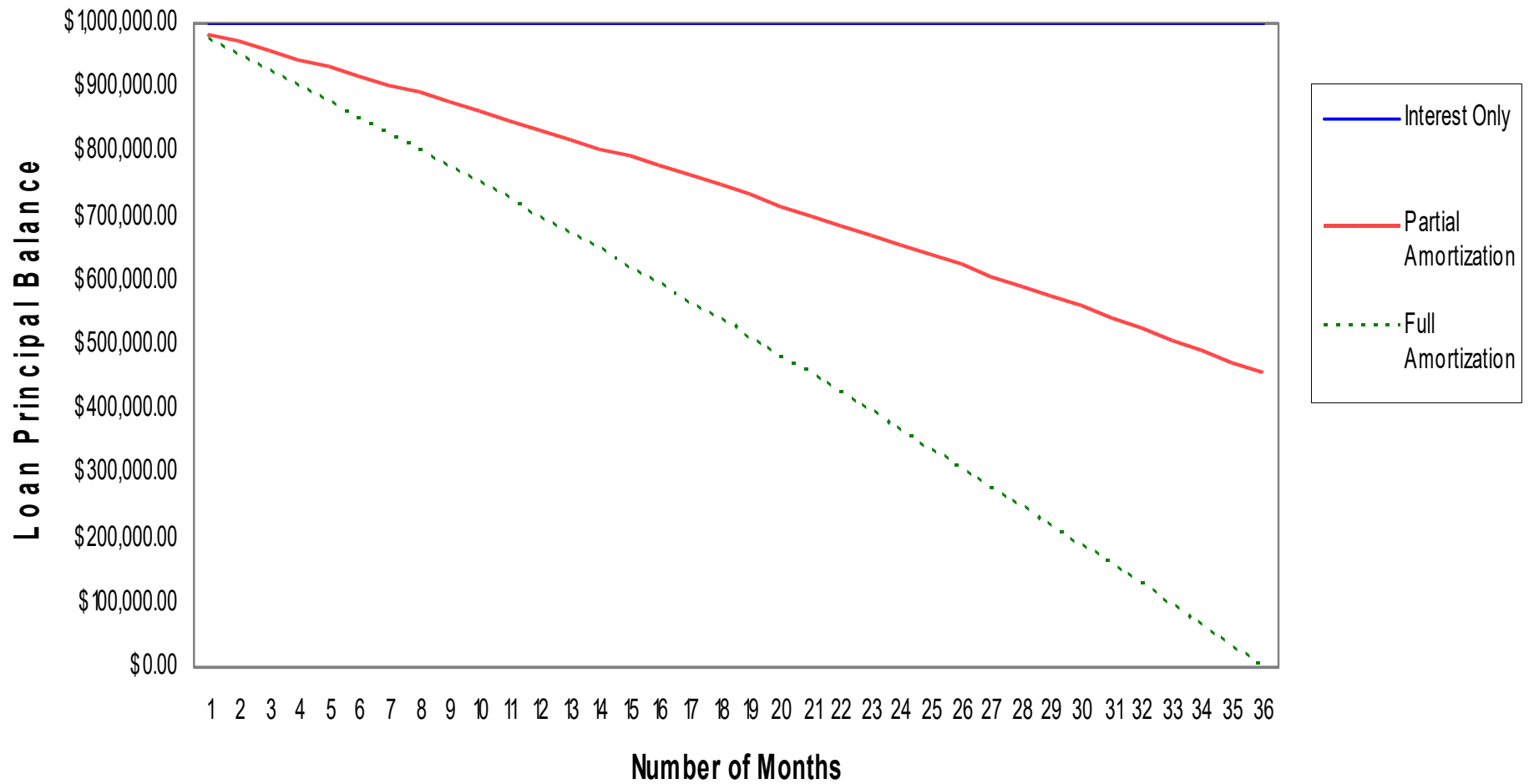
Annual Returns to Stocks and Bonds, 1928-2014



Data source: <http://www.stern.nyu.edu/~adamodar/pc/datasets/histretSP.xls>

Debt Examples

Figure 2-1: Comparison of Principal Balance Over Time, for Interest Only and Amortizing Loans



Average Permanent Loan Terms, 3rd Quarter 2016

Investor Survey, RealtyRates.com



Loan Terms	Industrial	Office	Lodging	Restaurant	Retail
Interest Rate	4.92%	5.18%	5.62%	6.57%	5.06%
DSCR	1.49	1.70	1.57	1.66	1.41
LTV	.70	.73	.67	.64	.71
Amortization (years)	25	30	22	21	25
Term (years)	11.46	8.0	7.8	7.45	6.20

Key Formulas: Debt Financing



- **Principal amount from monthly cash flow**
 - pv (monthly interest rate (i), # of months in ***amortization period*** (n), monthly cash flow for debt service (cf))
- **Monthly payment for a loan amount**
 - Pmt(monthly interest rate, # of months in ***amortization period*** (n), loan principal amount)
- **Outstanding principal balance**
 - pv (monthly i, n **left** in *amortization period*, monthly loan payment)

Small Firm Capital Sources

Capital Source	All Small Businesses	Small Firms < 20 workers, sales < \$1 mm	Small Firms > 20 workers, sales > \$1 mm
Principal Owner Equity	31.33%	44.53%	27.22%
Angel Finance	3.59%	n.a.	n.a.
Venture Capital	1.85%	n.a.	n.a.
Other Equity	12.86%	n.a.	n.a.
Total Equity	49.63	56.00%	47.67%
Commercial Banks	18.75%	14.88%	19.94%
Finance Companies	4.91%	3.08%	5.47%
Other Fin. Institution	3.00%	3.53%	2.83%
Trade Credit	15.78%	11.81%	17.01%
Principal Owner Debt	4.10%	5.59%	3.63%
Other Sources	3.83%	5.11%	3.45%
Total Debt	50.37%	44.00%	52.33%

Firm Stages

Seed Stage

1 to 3 years

Very small size

Pre-growth

Limited finance needs

Few assets

No revenue

Start-up Stage

1 to 5 years

Small size

Slow to moderate growth

More finance needs

Some assets

Unpredictable earnings

Maturity Stage

10 + years

Largest size

Modest growth

Renewal investment needs

Sizeable assets;
may be outdated

Earnings predictable

Growth Stage

5 to 10 years

Medium size

Rapid growth

High investment needs

Sizeable assets

Some earnings predictability

Capital Sources by Firm Age

Capital Source	0-2 Years	3-4 Years	5-25 Years	25+ Years
Principal Owner Equity	19.61%	17.37%	31.94%	35.42%
Total Equity	47.90%	39.37%	48.00%	56.50%
Commercial Banks	15.66%	30.84%	17.86%	17.25%
Finance Companies	8.33%	2.51%	5.85%	3.28%
Other Fin. Institution	3.84%	2.36%	2.87%	3.38%
Trade Credit	13.40%	13.42%	17.10%	13.86%
Principal Owner Debt	6.02%	6.19%	3.91%	3.68%
Other Sources	4.85%	5.31%	4.41%	2.05%
Total Debt	52.10%	60.63%	52.00%	33.50%

Empirical Data and Growth Stage Theory



- High reliance on debt finance ($> 50\%$) at start-up and early stages
- Heavy use of external institutional debt (40%) at start-up
- Growth in principle owner equity and total equity after 4 years
- Owner's personal assets are important to raising external capital

Small Business Credit Use 2009 to 2011

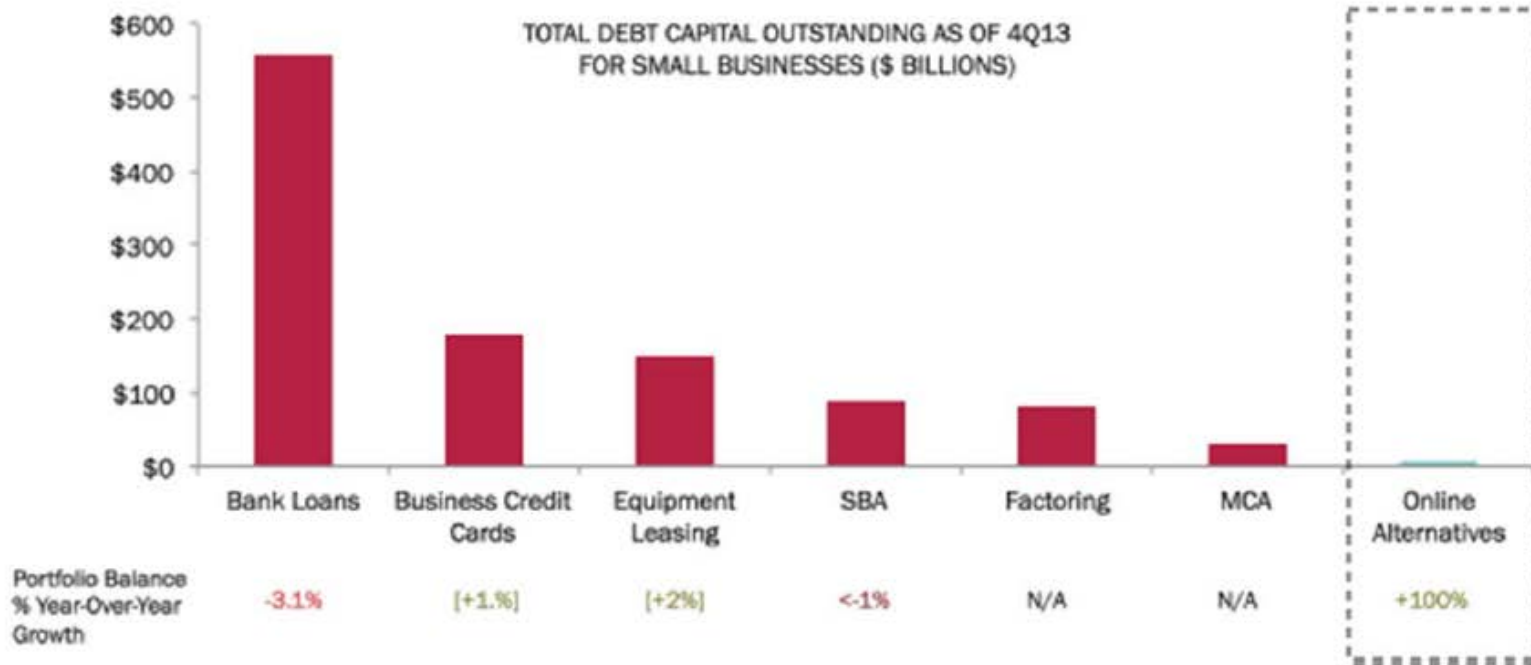


Type of Credit	2009 (%)	2010 (%)	2011(%)
Line of Credit (all)	45.6%	46.8%	45.4%
Line of Credit (<4 yrs)	30.6%	37.5%	26.0%
Business Loan (all)	35.9%	31.4%	29.1%
Business Loan (<4 yrs)	20.4%	36.2%	14.5%
Bus. Credit Card (all)	63.8%	57.5%	58.8%
Bus. Credit Card (<4 yrs)	No data	49.3%	51.8%
Trade Credit (all)	No data	57.8%	47.1%
Trade Credit (<4 yrs)	No data	42.8%	43.8%

BOGFRS, Availability of Credit to Small Businesses, April 2012

Small Business Credit Sources

Figure 28: Online Loan Market is Small, But Growing Fast
 Total Debt Capital Outstanding as of 4Q13 for Small Businesses (\$ Billions)



Source: Bank loans data taken from FDIC Call Reports; SBA data sourced from SBA publicly available information; Credit card data sourced from creditcards.com; remainder sourced from interviews with industry experts, and authors' analysis.

Business Finance Example 1



- **A neighborhood hardware store is planning to add an equipment rental service to its business. It needs \$30,000 to \$40,000 to buy the rental equipment and expects rental sales of \$3,000 to \$3,500 per month. It rents its building with ten years remaining on its lease and has had stable total sales over the past several years.**

Business Example 2



- The owner of a small furniture manufacturer is retiring and is interested in selling the business to her fifteen employees. The firm owns all its building and equipment and has inventory of wood, finished products it values at \$50,000, and an existing mortgage loan with a \$100,000 balance. The owner is asking \$1,000,000 for the business and all its assets.

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